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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of:

Werner Vogt

Serial No.: 09/786,045

Filed: February 28, 2001

Date: November 30, 2004

Group Art Unit: 1734

Examiner: George R. Koch

For: METHOD AND DEVICE FOR PRODUCING CARD-LIKE INFORMATION CARRIERS

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF PURSUANT TO 37 C.F.R. §1.192

Sir:

This appeal is taken from the final action mailed June 30, 2004. In support of the Notice of Appeal filed September 30, 2004, the present Appeal Brief is presented.

I. REAL PARTY IN INTEREST:

The real party in interest in the above-identified application is:

INTERLOCK AG
Rütistraße 16
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Switzerland

II. RELATED APPEALS AND INTERFERENCES:

There are no related appeals or interferences of which applicant is aware regarding the above-identified application.

III. STATUS OF CLAIMS:

Claims 1-11, 15, 16 and 21 have been canceled.

Claims 12-14, 17-20 and 22-24 are pending and subject to the present appeal.

Claims 12 and 13 stand rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over DE9218985 in view of U.S. Patent No. 5,468,315 to Okada, U.S. Patent No. 3,551,952 to Morse and U.S. Patent No. 4,659,304 to Day.

Claims 14 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Okada in view of Japanese abstract XP-002128554, U.S. Patent No. 4,675,066 to Honda, Day and Morse.

Claims 17-20 and 23-24 stand rejected under 35 U.S.C. §103(a) over Okada, XP-002128554, Honda, Day and Morse, and further in view of U.S. Patent No. 5,399,223 to Vogt.

IV. STATUS OF AMENDMENTS AFTER FINAL REJECTION:

No amendment after final rejection was filed.

V. SUMMARY OF THE INVENTION:

The claimed invention recites a method for producing a card-shaped information carrier by placing at least one card template into a hollow mold and subjecting the template to a simultaneous action of pressure and heat for a predetermined time so that the template placed into the hollow mold is heated over at least one large area by heating plates 2, 6 (see page 6, line 18-page 8, line 20 of the specification, all further references to page and the line numbers refer to the originally filed application). A peripheral, narrow, outer boundary region of the inserted

template is enclosed with a peripheral frame 7 consisting of a material which is one of substantially non-heat conducting, reflects heat and concentrates heat back onto an inserted laminate (see page 8, lines 21-25). The frame 7 has internal dimensions that correspond to final dimensions of the card-shaped carrier so that quantities of heat flowing off per se there are retained, blocked in, reflected and concentrated back onto the template (see page 9, lines 6-16).

Claim 13 depends from claim 12 and further limits that same by defining the placing step to include placing a laminate template including a plurality of sized card layers 3-5 into the hollow mold (see page 8, lines 23-27).

Claim 14 is an independent claim hereon to an apparatus for producing a sized, card-shaped information carrier. The apparatus includes a frame 7 that defines a cavity 7a (see page 6, lines 20-21) in which card layers 3-5 (see page 6, lines 23-27) are placeable for lamination by pressure and heat. A peripheral region of the frame 7 consists of a material which is one of substantially non-heat-conducting, reflects heat and concentrates heat back onto an inserted laminate (see page 8, lines 21-25). The frame has internal dimensions that correspond to final dimensions of the card-shaped carrier. The apparatus further includes heating plates 2, 6 arranged on both sides of the frame 7, the heating plates including an upper heating plate 2 and a lower heating plate 6 (see page 6, lines 18-20). The frame 7 has a reduction in material in a transitional edge region in order to increase specific contact pressure between the frame border edge and the upper heating plate 2 (see page 9, line 26-page 10, line 9). One of the heating plates 2, 6 has external dimensions that correspond to the internal dimensions of the frame 7 and is insertable with a prestressing action into the frame 7 so to produce the pressure required for laminating (see page 7, lines 1-9).

Claim 17 depends from claim 14 and further defines the lower heating plate 6 to have the external dimensions that correspond to the internal dimensions of the frame 7. A cooling body 8 is provided adjacent to the lower heating plate 6 so that the cooling body 8 is insertable together with the lower heating plate 6 into the frame 7 (see page 7, lines 1-19).

Claim 18 depends from claim 17 and further limits the same by adding prestressing means 9 for prestressingly acting on the cooling body 8 adjacent to the lower heating plate 6 (see page 7, lines 20-26).

Claim 19 depends from claim 17 and further limits the same by defining the upper heating plate 2 to be arranged to close the cavity 7a formed by the frame 7 in a lid-like manner by way of a boundary lip 2a projecting over the frame dimensions (see page 8, lines 1-4).

Claim 20 depends from claim 19 and further limits the same by adding pressure-producing means 10 for pressing the frame 7 and the upper heating plate 2 firmly against one another so that between the upper heating plate 2, which closes the cavity 7a in a lid-like manner, and the frame 7 an intrinsic relative movement is possible (see page 7, line 8 and page 8, lines 1-20).

Claim 22 depends from claim 14 and further limits the same by defining the reduction in material to be formed by a peripheral, outer annular recess 7b in the frame 7 (see page 9, lines 18-22).

Claim 23 depends from claim 19 and further limits the same by adding dedicated prestressing means 10 for pressing a transitional boundary edge of the frame 7 against the boundary lip 2a of the upper heating plate 2 (see page 8, lines 6-14).

Claim 24 depends from claim 23 and further defines the frame prestressing means 10 to be supported on the cooling body 8 (see page 10, lines 12-18).

VI. ISSUES:

The following issue is presented for review:

1. Whether claims 12 and 13 are unpatentable under 35 U.S.C. §103(a) over DE9218985 in view of Okada, Morse and Day.

2. Whether claims 14 and 22 are unpatentable under 35 U.S.C. §103(a) over Okada in view of XP-002128554, Honda, Day and Morse.

3. Whether claims 17-20 and 23-24 are unpatentable under 35 U.S.C. §103(a) over Okada, XP-002128554, Honda, Day and Morse, and further in view of Vogt.

VII. GROUPING OF CLAIMS:

Claims 12 and 13 stand or fall together. Claims 14, 17-20 and 22-24 stand or fall together. However, claims 12 and 14 are separately patentable.

VIII. ARGUMENT:

The Rejection of Claims 12 and 13 Under 35 U.S.C. §103(a)

In rejecting claims 12 and 13, the Examiner stated the following in the final rejection:

> "DE-92,18,985 discloses a method for producing a card shaped information carrier involving covering the surface of a card size region of blank material with a transparent layer (see Claim 1). The layer is pressed onto the surface of the card while being subjected to heat and pressure simultaneously (claim 6). For positioning and receiving the card to be laminated, DE-92,18,985

further discloses a hollow mold-like frame that can be placed on base plate for receiving cards or templates to be laminated and a top plate that can be set on the card in the frame (see claim 10, for example).

DE-92,18,985 does not disclose in a peripheral narrow outer boundary region of the inserted template with a peripheral frame consisting of material which is one of substantially non-heat conducting, reflects heat, and concentrates heat back onto an inserted laminate, the frame having internal dimensions that correspond to the final dimensions of the card shaped carrier, so that quantities of heat flowing off per se three are retained, blocked in, and concentrated back on the template.

Okada discloses a similar apparatus and method for use which is capable of heat creating card shaped information carriers (Okada is discloses (sic) mold dimensions of 100.1 mm by 100.1 mm, as in column 3, lines 61-67, which is taken to be "card-shaped"). Okada's apparatus comprises a frame defining a cavity (item 4, also called a restraining mold), and that the frame has internal dimensions which correspond to the final dimensions. Okada further discloses heating plates (items 2 and 3) arranged on both sides of the frame forming by its internal dimensions the cavity for the lamination process. Morse discloses an apparatus for applying heat and pressure to laminates wherein the blocking structure (item 14 and 15), which covers the peripheral, narrow, outer boundary of the pressing structure and corresponds to the dimensions of the substrate. Morse discloses that the structure prevents the loss of heat during the pressing operation (see column 1, lines 16-18, see also column 2, lines 25-33, see also column 2, lines 46-54). Furthermore, Day also discloses in a peripheral narrow outer boundary region of the inserted template with a peripheral frame consisting of material which is one of substantially non-heat conducting, reflects heat, and concentrates heat back onto an inserted laminate, the frame having internal dimensions that correspond to the final dimensions of the mold or heat pressing structure, so that quantities of heat flowing off per se there are retained, blocked in, and concentrated back on the substrate (see abstract and columns 2-4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the blocking structure of Okada, Morse and Day in the overall method of DE-92,18,985 in order to reduce the heat loss of the method and apparatus, thus improving the overall efficiency and energy savings. Furthermore, it is noted that a heat shield structure that prevents heat from escaping outward would implicitly being (sic) substantially non-heat-conducting, and reflect/concentrate heat back to the interior, towards the substrate to which dimensions are disclosed as corresponding towards.

As to claim 13, DE-92,18,985 discloses that the laminate template includes a plurality of sized card layers (best seen in Figure 2, elements 6 and 5)."

It can be seen that German reference DE-92,18,985 discloses a laminator for laminating a card in which a pressure producer or pressing member is arranged underneath the card position for selectively providing pressure on the card. This reference further teaches a heating arrangement for heating the card. As shown, for example, in Figure 5, the heating arrangement heats the entire surface of the card whereby the heat can escape at the edges of the card. This reference does not give the slightest suggestion for solving the problem addressed by the presently claimed invention, which is to provide and ensure a uniform heating over the entire surface of the laminate. In the teachings of the German reference, the heating arrangement used for heating the card has a heat loss at the edges of the card.

The reference teaches a laminator insert that serves the purpose of positioning the card to be laminated. This insert also serves as a frame for the inserted card. The insert also ensures that both during the lamination process and after the lamination process, the outer dimension of the card is maintained while also maintaining the desired flat, smooth edges. The reference describes it as detrimental due to the heating during the lamination process, the molecular structure of the card is so changed that the card is structurally degraded and in particular causes a melting of the card so that during the lamination process, the card dimensions change.

The object of DE-92,18,985 is to provide a card with a protective layer that avoids the above mentioned problems during the lamination process. This is accomplished by the card frame of the reference. Thus, this reference does not provide any suggestion for a method of producing a card-shaped information carrier as recited in independent claim 12.

The Examiner cites Okada et al. as teaching a frame. Reference numeral 4 of Okada et al., which the Examiner indicates as being a frame, is nothing more than a restraining mold.

Okada et al. do not teach that this restraining mold in any way affects the heat flow and in particular reflects the heat or concentrates heat back or that the mold should in any way have non-heat conducting characteristics as in the presently claimed invention.

The patent to Morse discloses a heat shielded press. Applicant respectfully submits that this reference adds nothing to the teachings of the previously discussed references since both the elements 14 and 15 are at a fixed distance from the heating element 16, 17 so that a reflection or concentration back of heat is not possible. It is also worth noting that the inner mass of both elements 14 and 15 does not correspond to the outer masses of the pressing portions of the press. Thus, one must question whether the Morse press can even be used for producing cards. Additionally, column 1, lines 16-18 of Morse specifically states that the objective of Morse is to prevent loss of heat from the press during opening and closing of the press, there is no discussion of preventing heat loss from the template.

The patent to Day teaches a molding press which the Examiner asserts teaches a heat reflecting frame. At the outset, applicant questions whether the molding press of Day is even suitable for use in producing cards. However, even if it is suitable for such an application, the reflector 17 of Day do not enclose a peripheral, narrow, outer boundary region of an inserted template, as in the presently claimed invention. The Examiner combined these four references in determining that claims 12 and 13 would be unpatentable over such combination. Applicant respectfully submits that there is no motivation provided in the teachings of any of these references for making the combination argued by the Examiner. The only possible suggestion for making such combination would be hindsight reconstruction based upon the teachings of the present application itself. Of course, such hindsight reconstruction is impermissible. There is nothing in the teachings of these references which suggests picking and choosing various features of each of the references to arrive at the presently claimed invention. There is no teaching or

suggestion by any of the references for modifying the German reference to concentrate heat back onto the laminate of the card, as in the presently claimed invention.

The Rejection of Claims 14 and 22 Under 35 U.S.C. §103(a)u

In rejecting claims 14 and 22, the Examiner stated the following in the final rejection:

> "Okada discloses an apparatus capable of creating card shaped information carriers (Okada is discloses (sic) mold dimensions of 100.1 mm by 100.1 mm, as in column 3, lines 61-67, which is taken to be "card-shaped"). Okada's apparatus comprises a frame defining a cavity (item 4, also called a restraining mold), and that the frame has internal dimensions which correspond to the final dimensions. Okada further discloses heating plates (items 2 and 3) arranged on both sides of the frame forming by its internal dimensions the cavity for the lamination process. The heating plates include an upper plate (item 2), and a lower plate (item 3). Both of the heating plates have external dimensions that correspond to the internal dimension of the frame and are insertable with a prestressing action into said frame so as to produce the pressure required for lamination (from items 5).
>
> Okada does not disclose that the frame, or side structure, is designed to have peripheral regions which consist of a material which is slightly heat conducting, reflects heat and concentrates heat back onto an inserted laminated (sic). Further, Okada does not disclose that the frame has a reduction in material in a transitional edge region in order to increase specific contact pressure between the frame border edge and the upper heating plate.
>
> Morse, Day and XP-002128554 discloses (sic) that it is useful to include thermally insulated plates, i.e., a frame made of a slightly heat conducting material, position (sic) around the plates, and further including a heat reflective layer. This structure would reflect heat and concentrate heat back onto the laminate. Morse discloses that such a structure (items 14 and 15) would block in heat. Day discloses that these properties lead to energy savings (column 4). XP-002128554 also discloses that the heat radiation and heat dispersion are reduced due to this structure. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have made the frame of Okada out of a slightly heat conductive material as suggested by Morse, Day and XP-002128554 in order to reduce heat radiation and dispersion and improve lamination operation.
>
> Honda discloses various side structures (such as element 5 in Figures 1, 2 and especially element 6 in Figures 3, 4) which disclose frame structures with reduction of material in a transitional edge region for contact with the lower press structure. Honda discloses that such a profile allows for sealing the gap between the pressing structures and improves the heat and pressure lamination operation (see, for example, columns 6 and 7). Honda does not disclose reversing the parts so the structure so that the transitional edge region with reduction of material

> contacts the upper platen (sic). However, such a reversal is obvious as it is a functional equivalent of the structure of Honda since it merely rearranges or reorients the structures of the first plate, the second plate, and the transitional edges as an obvious design choice with no unexpected results. (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated such a profile in the upper portion of the frame in upper heating press of Okada (as modified by XP-002128554, and Vogt) in order to improve contact between the frame and the heating plate and thus improve the heat lamination operation.
>
> As to claim 22, Honda discloses the reduction in material being formed by a peripheral outer annular recess (see element 6 in Figures 3 and 4)."

There is no teaching or suggestion made by these references for a peripheral frame made of a material which is substantially non-heat-conducting, reflects heat or concentrates heat back onto an inserted laminate, as in the presently claimed invention. The references do not in any way address the problems being solved by the presently claimed invention, nor do they suggest how these problems should be dealt with.

Without at least some such discussion in the references, applicant respectfully submits that there is no motivation for combining the references as argued by the Examiner. Okada does not teach a frame or side structure designed to have peripheral regions that consist of a material which is slightly heat conducting, reflects heat and concentrates heat back into the inserted laminate. Furthermore, Okada does not disclose that the frame has a reduction in material in a transitional edge in order to increase specific contact pressure between the frame border edge and the upper heating plate. None of the remaining references provide any discussion or suggestion for such a frame either. The basis for the combination as presented by the Examiner does not find support in the teachings of the references, but instead is a subjective interpretation by the Examiner based upon the teachings of the present application, which is of course impermissible hindsight reconstruction. Applicant additionally points that the large number of references relied upon by the Examiner in attempting to show all of the features recited in the presently claimed

invention helps indicate that the combination of these features is not obvious as the Examiner urges. The combination of such a large number of references would, in applicant's opinion, only be evident after having the knowledge provided by the present application as a guide.. Thus, it is believed that the Examiner's rejection of claims 14 and 22 based on a combination of these references is in error.

The Rejection of Claims 17-20 and 23-24 Under 35 U.S.C. §103(a)

In rejecting these claims, the Examiner stated the following in the final rejection:

> "As to claim 17, Okada discloses that the heating plates include an upper and lower heating plate (item 6 and surrounding structure), and at the lower plate as external dimensions corresponding to the frame (item 4).
>
> Okada, XP-002128554, Honda and Morse does not disclose a cooling structure.
>
> Vogt discloses a cooling body (item 21a) which is inserted into a frame (items 19a and 19b) which is used in a process for laminating identification cards. The addition of this cooling body with the Peltier effect is disclosed as enabling the cooling effect to be enhanced in a particularly efficient way (column 5, lines 1-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included a cooling body as suggested by Vogt in order to increase the efficiency of the cooling and improve the operation speed.
>
> As to claim 18, Okada discloses that both heating plates have dimensions that correspond to the internal dimensions of the frame.
>
> Okada, XP-002128554, Honda, Day and Morse do not disclose that one of the heating plates is insertable into the frame by a means for prestressing acting on the cooling body adjacent to the lower heating plate.
>
> Vogt discloses that the lower plate (Figure 1, item 17) is insertable into the frame (Figure 1, items 19a and 19b) by means of a prestressing action created by springs 24, which are acting upon both cooling body (21a) and lower plate (17). Vogt further discloses that the springs provide sufficient laminating pressure for the lamination operation (specifically recited in column 8, lines 18-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included structure for inserting the lower heating plate in order to provide sufficient laminating pressure and improve lamination efficiency.
>
> As to claim 19, Okada clearly discloses a lid structure in Figures 1 and 3. The portion of plate 2 which is disposed above frame 4 functions as a lid structure.

As to claim 20, Okada discloses pressure producing means for pressing the frame and upper heating plate firmly together (see element 5 in Figure 3).

As to claim 23, Okada discloses frame prestressing means for pressing the frame against the boundary lip of the upper heating plate (see element 5 in Figure 3). As modified by Honda, such a structure would press the transitional edge against the upper heating press.

As to claim 24, Okada discloses that these prestressing means are supported on the heater block.

Okada, XP-002128554, Honda, Day and Morse do not disclose supporting the frame via any structure on top of the cooling block.

Vogt discloses supporting the frame by means of prestressing structures such as screws (item 20, see column 9, lines 39-46) which are disposed on the cooling block. One in the art would appreciate that disposing the frame on the cooling block rather than directly attaching it to the heating structures would prevent overheating of the springs of Okada, thus improving the apparatus life. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated attachment of the frame to the cooling block in order to prevent overheating of the less durable springs which form the stressing means."

The arguments presented above in connection with claims 14 and 22 apply equally here. The additional reference to Vogt does not provide any teachings or motivations to one skilled in the art which would lead to the presently claimed invention.

IX. CONCLUSION

Accordingly, in view of the above considerations, it is applicant's position that the Examiner's rejection of claims 12 and 13 under 35 U.S.C. §103(a) over DE-92,18,985 in view of Okada, Morse and Day, the Examiner's rejection of claims 14 and 22 under 35 U.S.C. §103(a) over Okada in view of XP-002128554, Honda, Day and Morse, and the Examiner's rejection of claims 17-20 and 23-24 under 35 U.S.C. §103(a) over Okada, XP-002128554, Honda, Day and Morse, and further in view of Vogt, are in error and should be reversed.

Check No. 18844 in the amount of $170.00 to cover the fee for filing an Appeal Brief is enclosed. Any additional fees or charges required at this time in connection with this application may be charged to Patent and Trademark Office Deposit Account No. 15-0700.

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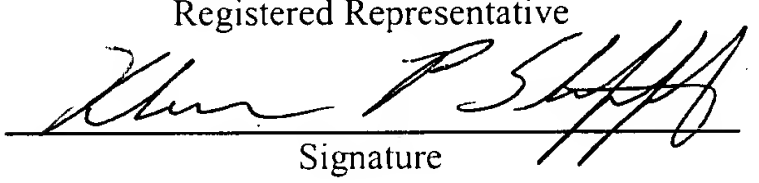

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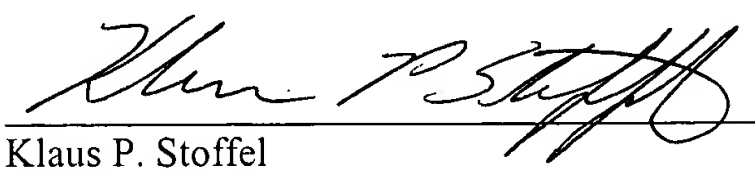

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APPENDIX A

CLAIMS ON APPEAL

12. A method for producing a card-shaped information carrier, comprising the steps of: placing at least one card template which is to be sized into a hollow mold; subjecting the template to a simultaneous action of pressure and heat for a predetermined time so that the template placed into the hollow mold is heated over at least one large area by heating plates; and enclosing a peripheral, narrow, outer boundary region of the inserted template with a peripheral frame consisting of a material which is one of substantially non-heat-conducting, reflects heat and concentrates heat back onto an inserted laminate, the frame having internal dimensions that correspond to final dimensions of the card-shaped carrier, so that quantities of heat flowing off per se there are retained, blocked in, reflected and concentrated back onto the template.

13. A method according to claim 12, wherein the placing step includes placing a laminate template including a plurality of sized card layers into the hollow mold.

14. An apparatus for producing a sized, card-shaped information carrier comprising a frame defining a cavity in which card layers are placeable for lamination by pressure and heat, a peripheral region of the frame consisting of a material which is one of substantially non-heat-conducting, reflects heat and concentrates heat back onto an inserted laminate, the frame having internal dimensions that correspond to final dimensions of the card-shaped carrier, and further comprising heating plates arranged on both sides of the frame forming, by its internal dimensions, the cavity for the laminating process, the heating plates including an upper heating plate and a lower heating plate, the frame having a reduction in

material in a transitional edge region in order to increase specific contact pressure between frame border edge and the upper heating plate, one of the heating plates having external dimensions that correspond to the internal dimensions of the frame and being insertable with a prestressing action into said frame so as to produce the pressure required for laminating.

17. An apparatus as defined in claim 14, wherein the lower heating plate has the external dimensions that correspond to the internal dimensions of the frame, and further comprising a cooling body adjacent to the lower heating plate so that the cooling body is insertable together with the lower heating plate into the frame.

18. An apparatus as defined in claim 17, and further comprising prestressing means for prestressingly acting on the cooling body adjacent to the lower heating plate.

19. An apparatus as defined in claim 17, wherein the upper heating plate is arranged to close the cavity formed by the frame in a lid-like manner by way of a boundary lip projecting over the frame dimensions.

20. An apparatus as defined in claim 19, and further comprising pressure-producing means for pressing the frame and the upper heating plate firmly against one another so that between the upper heating plate, which closes the cavity in a lid-like manner, and the frame an intrinsic relative movement is possible.

22. An apparatus as defined in claim 14, wherein the reduction in material is formed by a peripheral, outer annular recess in the frame.

23. An apparatus as defined in claim 19, and further comprising dedicated prestressing means for pressing a transitional boundary edge of the frame against the boundary lip of the upper heating plate.

24. An apparatus as defined in claim 23, wherein the frame prestressing means are supported on the cooling body which is assigned to the lower heating plate and subjects the lower heating plate to pressure.